

Figure E.1. Pattern of aqueous arsenic species concentrations as a function of season and depth for fixed ground water monitoring location TW07 installed within the GSIP Study Area. This location is coincident with the snap-shot ground water monitoring point A12.

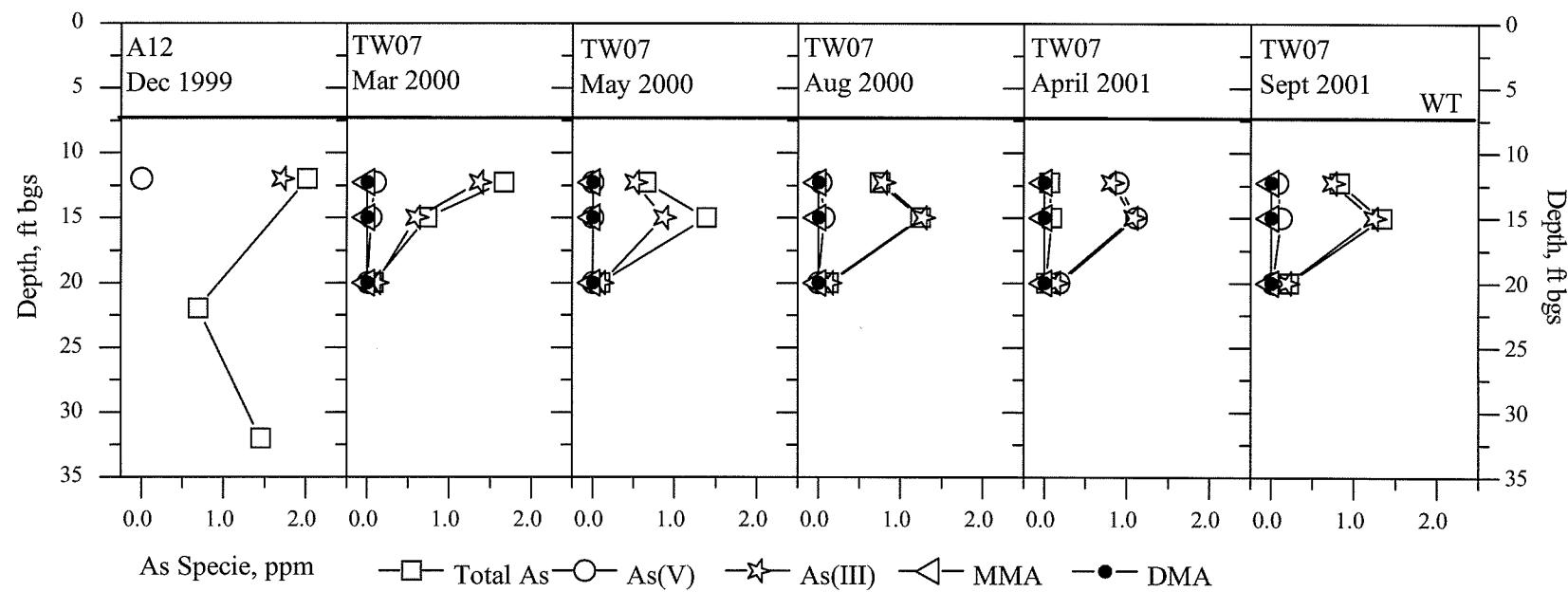


Figure E.2. Pattern of aqueous arsenic species concentrations as a function of sampling date for fixed ground water monitoring location TW08 installed within the GSIP Study Area. This location is coincident with the snap-shot ground water monitoring point A17.

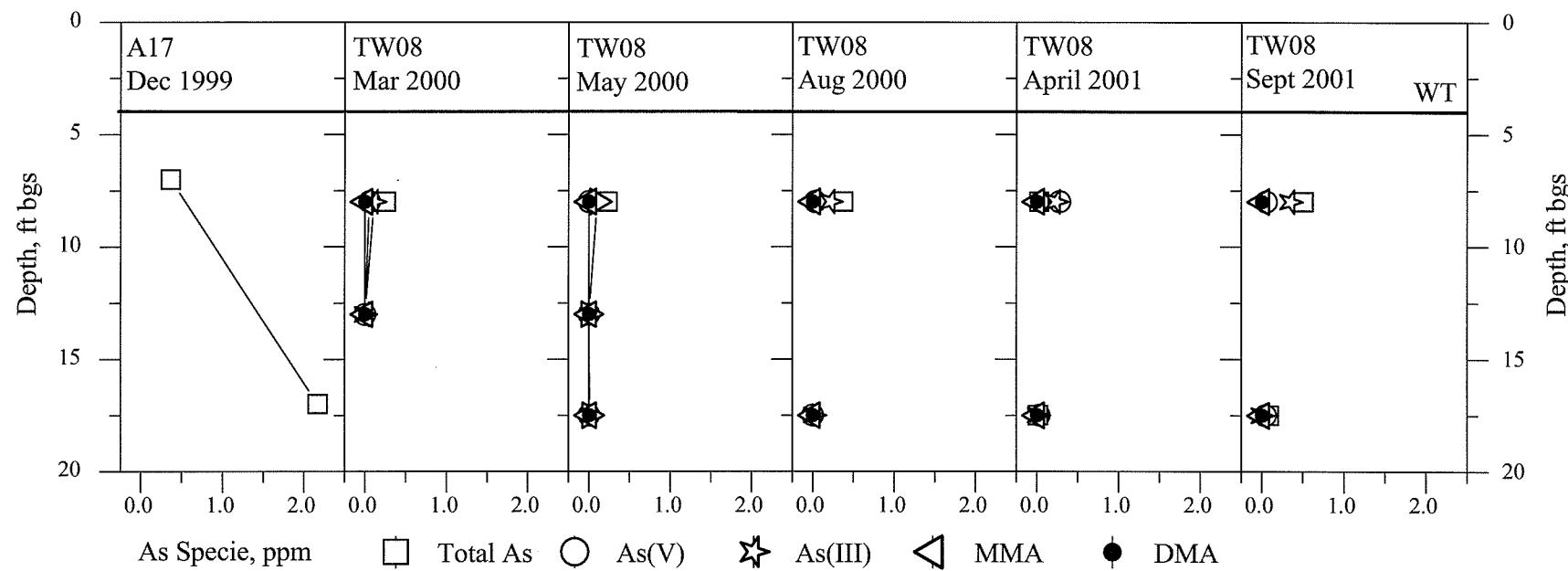


Figure E.3. Pattern of aqueous arsenic species concentrations as a function of sampling date for fixed ground water monitoring location TW10 installed within the Industri-Plex Superfund Site. This location is coincident with the snap-shot ground water monitoring point A14.

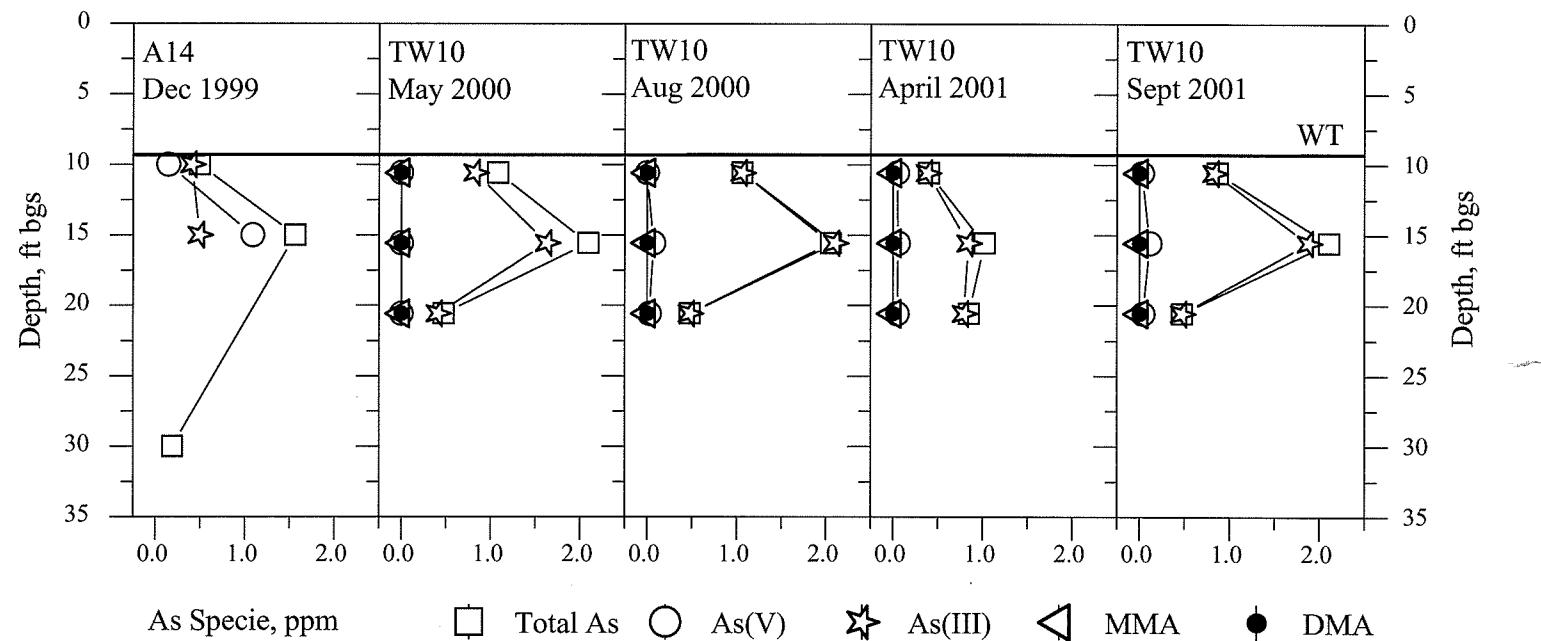
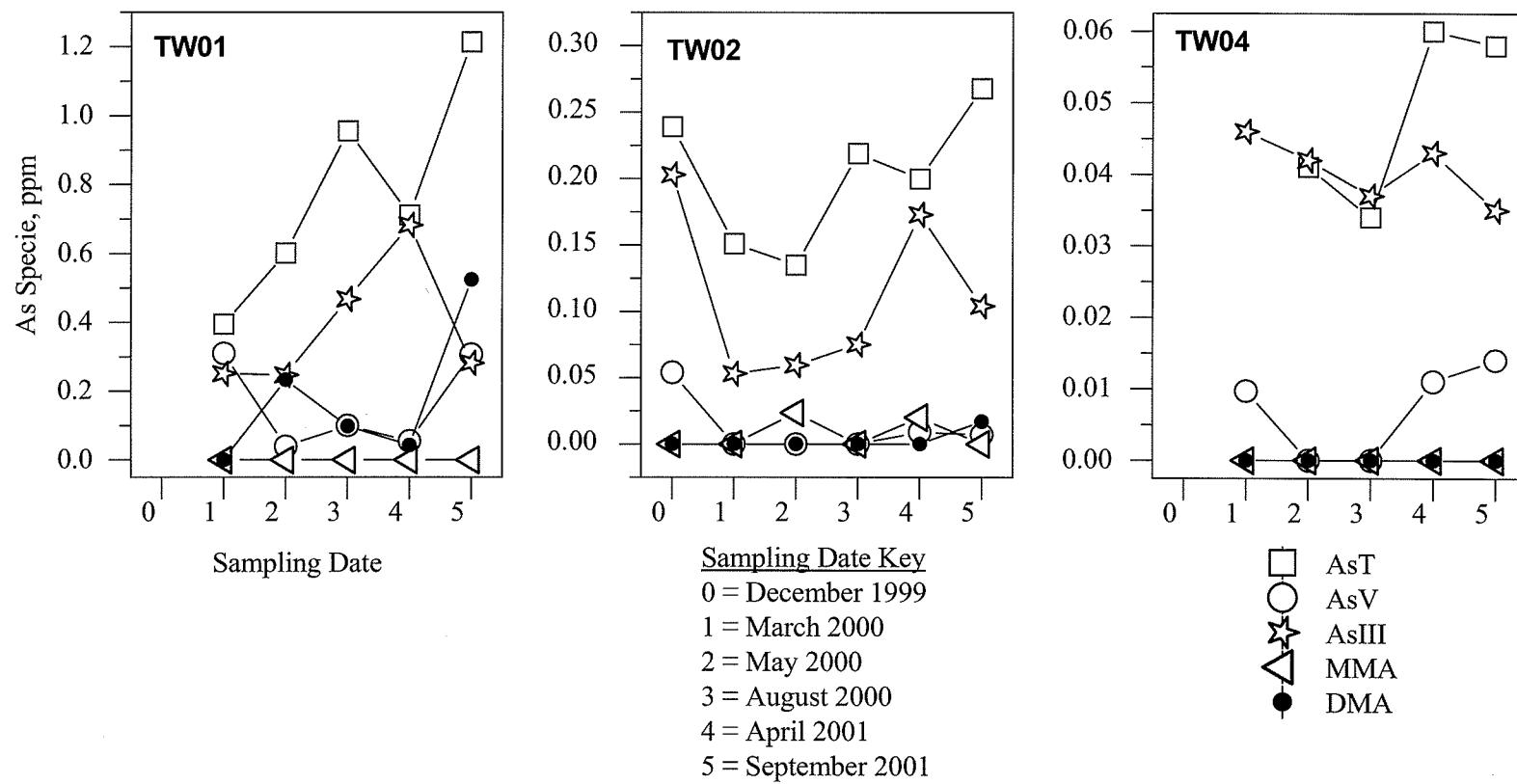


Figure E.4. Pattern of aqueous arsenic species concentrations as a function of sampling date for fixed ground water monitoring locations TW01, TW02, and TW04 installed below sediments within the Hall's Brook Holding Area Pond.



## Appendix F

Summary of sediment data for Hall's Brook Holding Area Pond within the GSIP Study Area and the Wells G&H wetland.

Table F.1. Concentrations of selected elements in sediment core NC01 collected within Hall's Brook Holding Area Pond.

Sample ID	Depth Interval cm	Fe wt%	S wt%	TOC wt%	As µg/gm	Pb µg/gm	Cr µg/gm	Zn µg/gm
NC01-1	0.0-1.4	7.89	2.20	15.24	420	332	518	4176
NC01-2	1.4-2.8	7.8	1.80	15.58	456	395	634	4418
NC01-3	2.8-4.2	10.31	2.20	14.27	660	524	912	5603
NC01-4	4.2-5.6	13.76	2.11	14.61	997	806	1079	6915
NC01-5	5.6-7.0	9.42	2.10	13.32	524	456	630	4281
NC01-6	7.0-8.4	8.49	1.77	14.52	534	444	570	4282
NC01-7	8.4-10.0	10.10	0.05	5.95	639	606	691	3990
NC01-8	10.0-18.3	7.21	0.04	0.27	455	507	501	2850
NC01-9	18.3-26.6	1.51	0.04	0.17	101	106	87	609
NC01-10	26.6-34.9	0.37	0.03	0.03	10	34	14	71

Notes: Core collected 4/03/2000. Fe, As, Pb, Cr, and Zn determined by microwave-assisted nitric acid digestion with ICP detection (RSKSOP-180 Rev.2). NM = not measured. TOC = total carbon minus inorganic carbon determined using an UIC, Inc. Carbon Coulometer. S = total sulfur determined using an UIC, Inc. Sulfur Coulometer.

Table F.2. Concentrations of selected elements in sediment core CC02 collected within Hall's Brook Holding Area Pond.

Sample ID	Depth Interval cm	Fe wt%	S wt%	TOC wt%	As µg/gm	Pb µg/gm	Cr µg/gm	Zn µg/gm
CC02-1	0.0-2.1	10.70	1.36	NM	971	431	567	3693
CC02-2	2.1-4.2	11.01	1.38	17.06	1101	425	573	3489
CC02-3	4.2-6.3	9.10	1.34	14.58	697	378	548	3274
CC02-4	6.3-8.4	11.27	1.43	14.64	827	438	731	3861
CC02-5	8.4-10.5	12.36	1.73	14.26	914	521	826	4420
CC02-6	10.5-12.6	14.55	1.31	13.09	945	633	830	4884
CC02-7	12.6-14.7	10.10	1.41	11.71	639	606	691	3990
CC02-8	14.7-16.8	7.21	1.00	9.81	455	507	501	2850
CC02-9	16.8-25.4	1.51	0.04	0.33	101	106	87	609
CC02-10	25.4-31.9	0.37	0.03	0.20	10	34	14	71
CC02-11	31.9-38.4	0.74	0.02	0.29	19	50	32	373
CC02-12	38.4-45.9	0.61	0.01	0.12	1.8	9.8	16	121
CC02-13	45.9-53.4	0.62	0.01	0.05	1.5	4.7	9	45

Notes: Core collected 4/03/2000. Fe, As, Pb, Cr, and Zn determined by microwave-assisted nitric acid digestion with ICP detection (RSKSOP-180 Rev.2). NM = not measured. TOC = total carbon minus inorganic carbon determined using an UIC, Inc. Carbon Coulometer. S = total sulfur determined using an UIC, Inc. Sulfur Coulometer.

Table F.3. Concentrations of selected elements in sediment core SC02 collected within Hall's Brook Holding Area Pond.

Sample ID	Depth Interval cm	Fe wt%	S wt%	TOC wt%	As µg/gm	Pb µg/gm	Cr µg/gm	Zn µg/gm
SC02-1	0.0-3.0	17.53	2.54	NM	1495	460	812	4467
SC02-2	3.0-6.0	11.94	2.25	11.32	1439	455	594	3612
SC02-3	6.0-9.0	9.98	2.18	9.51	942	399	618	3477
SC02-4	9.0-12.0	3.4	1.37	5.04	232	315	328	1790
SC02-5	12.0-15.0	2.72	0.57	6.46	200	452	462	1860
SC02-6	15.0-18.0	1.28	0.17	1.86	66	226	219	357
SC02-7	18.0-21.0	NM	0.03	0.13	NM	NM	NM	NM

Notes: Core collected 4/03/2000. Fe, As, Pb, Cr, and Zn determined by microwave-assisted nitric acid digestion with ICP detection (RSKSOP-180 Rev.2). NM = not measured. TOC = total carbon minus inorganic carbon determined using an UIC, Inc. Carbon Coulometer. S = total sulfur determined using an UIC, Inc. Sulfur Coulometer.

Table F.4. Concentrations of selected elements in surface sediments collected within the Hall's Brook Holding Area Pond.

Sample ID	Fe wt%	S wt%	TOC wt%	As, $\mu\text{g/gm}$		Pb $\mu\text{g/gm}$	Cr $\mu\text{g/gm}$	Zn $\mu\text{g/gm}$
				<2 mm	<2 $\mu\text{m}$			
SC0401-1	7.46	1.14	5.24	680	NM	274	511	2550
SC0401-2	8.94	2.44	10.26	1150	NM	392	698	4790
SC0401-3	11.9	10.95	6.69	1680	NM	398	250	17500
SC0401-4	9.34	0.37	4.53	430	NM	1180	NM	2350
SC0401-5	7.59	1.59	14.18	676	NM	526	593	3440
SC0401-6	8.56	2.85	18.61	1070	NM	481	694	3190
SC0401-7	8.65	2.32	17.34	973	NM	360	549	2590
WI01	3.8	0.20	3.10	494	2536	794	197	583
WI01-NEP	7.7	0.18	3.00	830	3564	572	122	767
WI02	24.6	0.47	4.75	715	1036	203	106	3034
WI02-NEP	18.5	0.65	5.24	630	803	262	162	4589
WI04	26.3	0.35	5.26	840	995	115	49	1517

Notes: Sediments with 'SC' designation collected on 4/03/2001; sediments with 'WI' designation collected on 8/24/2000. Fe, As, Pb, Cr, and Zn determined by microwave-assisted nitric acid digestion with ICP detection (RSKSOP-180 Rev.2), except for <2  $\mu\text{m}$  As determined following 24 hour extraction with 1 N HCl at room temperature. NM = not measured. TOC = total carbon minus inorganic carbon determined using an UIC, Inc. Carbon Coulometer. S = total sulfur determined using an UIC, Inc. Sulfur Coulometer.

Table F.5. Geochemical data for pore water isolated from sediment samples. COND = specific conductivity, ALK = alkalinity, NM = not measured.

Sample ID	pH	COND $\mu\text{S}/\text{cm}$	ALK mg/L CaCO <sub>3</sub>	Fe <sup>2+</sup> mg/L	As $\mu\text{g}/\text{L}$
GHME12B	NM	688	18.4	7.9	674
GH2801	5.76	945	151.2	65.0	215
GH2901	8.62	537	17.6	4.5	540
HBHAW02B	7.14	1138	283.6	42.5	156

Table F.6. Concentrations of selected elements in surface sediments collected within the Well's G&H and the Hall's Brook Holding Area wetlands. Fe, As, Pb, Cr, and Zn determined by microwave-assisted nitric acid digestion with ICP detection (RSKSOP-180 Rev.2). ND = not detected. TOC = total carbon minus inorganic carbon determined using an UIC, Inc. Carbon Coulometer. S = total sulfur determined using an UIC, Inc. Sulfur Coulometer. Locational data (Massachusetts State Plane, NAD83 except HBHAW02B) for sediments are as follows (Sample ID; Northing, meters; Easting, meters): GHME12B, N 916167.941, E 230325.386; GH2801, N 916304.07332, E 230251.86080; GH2901, N 916085.94456, E 230310.01906; HBHAW02B, N 4708561.424, E 324278.5871 (UTM Z19 NAD83).

Sample ID	Fe wt%	S wt%	TOC wt%	As $\mu\text{g}/\text{gm}$	Pb $\mu\text{g}/\text{gm}$	Cr $\mu\text{g}/\text{gm}$	Zn $\mu\text{g}/\text{gm}$
GHME12B	4.6	1.6	20.0	1110	686	1450	1750
GH2801	5.0	0.9	37.6	1030	393	495	1520
GH2901	1.0	0.3	2.9	83	59	218	494
HBHAW02B	1.2	0.2	1.2	66	30	44	508

Table F.7. Summary of solution data from leaching experiments. Dried sediment split samples were leached either with surface water collected from NML-2 sampling location ('NML-2') or a synthetic solution ('SSPW') with a major inorganic element composition comparable to water from NML-2. No dissolved organic carbon was present in the SSPW solution. Values for 'Estimated As From Pore Water' were determined based on the volume of residual pore water and the measured pore water As concentration for each sediment split sample. The fraction of residual pore water contribution for each leaching experiment is shown in parentheses.

Sample ID	Elapsed Time (hour)	pH S.U.	COND $\mu\text{S}/\text{cm}$	ORP mV	As ppb	Estimated As From Pore Water ppb
GHME12B1 (SSPW)	0.25	7.31	1031	94	262	11 (4%)
	2.12	7.33	1006	150	319	
	3.70	7.33	993	156	316	
GHME12B2 (SSPW)	0.33	7.29	970	48	243	13 (4%)
	2.05	7.44	974	111	316	
	4.30	7.28	991	123	339	
GHME12B3 (NML-2)	0.33	6.71	964	48	260	14 (4%)
	2.00	6.84	955	97	336	
	4.00	6.82	964	120	369	
GH28011 (SSPW)	0.33	7.03	1002	102	87	21 (26%)
	2.08	7.02	996	107	90	
	4.58	6.95	1040	127	82	
GH28012 (SSPW)	0.33	6.79	993	67	89	19 (14%)
	1.67	6.9	973	63	103	
	3.58	7.01	959	83	141	
GH29011 (SSPW)	0.33	6.79	921	45	26	29 (126%)
	2	6.94	889	93	21	
	4.00	6.98	886	133	23	
HBHAW02B1 (SSPW)	0.33	6.69	947	-9	<33	13
	2	6.93	912	11	<33	
	4.00	7.06	899	33	<33	
HBHAW02B2 (NML-2)	0.33	6.42	908	-10	25	13 (108%)
	2.00	6.51	916	22	15	
	4	6.5	925	83	12	

Figure F.1. Photograph of shallow oxic sediments within the northern portion of the HBHA Pond near the Atlantic Avenue Drainway discharge. This photograph depicts the area of collection for sediment samples WI01, WI01-NEP, WI02, WI02-NEP and WI04. The orangish-red sediments are the product of rapid oxidation and precipitation of ferrous iron discharging into the HBHA Pond from shallow ground-water seeps. Photograph was taken August 24, 2000.



## Appendix G

Summary of benzene and toluene concentrations for snap-shot and fixed (tubing wells) ground-water monitoring locations and surface-water locations within the HBHA Pond.

Table G.1. Summary of benzene and toluene concentrations measured in filtered ground-water samples collected from snap-shot monitoring locations. Explanation of abbreviations: ft bgs = feet below ground surface, BLQ = below limit of quantitation, ND = not detected, NM = not measured, NS = not sampled.

Location	Sampling Date	Screen Depth ft bgs	Benzene ppb <sup>1</sup>	Toluene ppb <sup>2</sup>
A01-1	10/14/1999	32.75	1.2	1.6
A01-2	10/15/1999	41.75	1.0	BLQ
A02-1	10/14/1999	12.00	2.1	ND
A03-1	10/15/1999	9.00	ND	ND
A03-2	10/15/1999	19.00	ND	ND
A04-1	10/15/1999	15.00	ND	ND
A04-2	10/15/1999	24.75	ND	ND
A04-3	10/15/1999	32.50	ND	ND
A05-1	10/15/1999	8.50	ND	ND
A06-1	10/18/1999	15.50	BLQ	ND
A06-2	10/18/1999	25.50	ND	ND
A07-1	10/18/1999	13.50	ND	ND
A07-2	10/18/1999	23.50	ND	ND
A08-1	10/19/1999	9.00	ND	ND
A08-2	10/19/1999	19.00	ND	ND
A08-3	10/19/1999	39.00	2580.0	23.3
A09-1	10/19/1999	12.50	6.9	BLQ
A09-2	10/19/1999	22.50	2.4	ND
A09-3	10/19/1999	43.00	1.1	ND
A10-1	10/20/1999	10.00	BLQ	ND
A10-2	10/20/1999	20.00	799.0	1.4
A10-3	10/20/1999	30.00	1130.0	1.7
A11-1	10/20/1999	10.50	3.2	ND
A11-2	10/20/1999	20.50	719.0	1520.0
A11-3	10/20/1999	30.50	4780.0	91.4
A12-1	10/20/1999	12.00	11.8	ND
A12-2	10/21/1999	22.00	4.1	ND
A12-3	10/21/1999	32.00	3.3	ND
A13-1	10/20/1999	7.50	6.6	ND
A13-2	10/20/1999	17.50	322.0	1970.0
A13-3	10/20/1999	34.50	NM	NM
A13-4	10/20/1999	45.00	NM	NM
A14-1	11/30/1999	10.00	ND	ND
A14-2	11/30/1999	15.00	ND	ND
A14-3	11/30/1999	30.00	BLQ	ND
A15-1	11/30/1999	11.8	NM	NM
A16-1	12/1/1999	7.00	ND	ND
A16-2	12/1/1999	12.00	171.0	13.5
A17-1	12/1/1999	7.00	ND	ND
A17-3	12/1/1999	17.00	4812.0	7.8
A18-1	12/2/1999	19.00	9.1	ND
A19-1	12/2/1999	8.50	1.7	ND
A20-1	3/28/2000	5.00	NS	NS
A20-2	3/28/2000	10.00	BLQ	2.0
A21-1	3/30/2000	5.50	BLQ	BLQ
A21-2	3/30/2000	13.50	ND	BLQ
A22-1	3/31/2000	9.75	BLQ	BLQ
A22-2	3/31/2000	14.75	BLQ	BLQ
A23-1	3/31/2000	9.75	5.0	2.0
A23-2	4/3/2000	16.75	2.0	1.0

<sup>1</sup> Detection Limit = 0.23 ppb; Quantitation Limit = 1.00 ppb

<sup>2</sup> Detection Limit = 0.22 ppb; Quantitation Limit = 1.00 ppb

Table G.2. Summary of benzene and toluene concentrations measured in filtered ground-water samples collected from fixed-point monitoring locations. Explanation of abbreviations: ft bgs = feet below ground surface, ft bws = feet below water surface, NA = not applicable, NM = not measured, ND = not detected, BLQ = below limit of quantitation.

Location	Sampling Date	Screen Depth ft bgs <sup>1</sup>	Benzene ppb <sup>2</sup>	Toluene ppb <sup>3</sup>
TW01	3/29/2000	9.00	4070.0	11.0
	5/17/2000	9.00	1745.0	67.0
	4/3/2001	9.00	2590.0	31.2
TW02	4/6/2000	14.00	728.0	9.0
	5/16/2000	14.00	865.5	1.9
	3/29/2001	14.00	782.0	3.8
TW03	3/29/2000	13.00	2.0	1.0
	5/16/2000	13.00	BLQ	BLQ
TW04	3/29/2000	14.00	5.5	BLQ
	5/16/2000	14.00	1.0	1.0
	3/29/2001	14.00	1.8	5.4
TW05	5/17/2000	11.00	10.5	BLQ
TW06-1	4/5/2000	12.25	1.0	BLQ
	5/16/2000	12.25	BLQ	BLQ
TW06-2	4/5/2000	17.50	BLQ	1.0
	5/16/2000	17.50	BLQ	BLQ
TW06-3	4/5/2000	22.50	1.0	1.0
	5/16/2000	22.50	BLQ	BLQ
TW07-1	4/4/2000	12.25	BLQ	1.0
	5/16/2000	12.25	BLQ	BLQ
	3/29/2001	12.25	BLQ	4.8
TW07-2	4/5/2000	15.00	BLQ	BLQ
	5/16/2000	15.00	BLQ	BLQ
	3/29/2001	15.00	BLQ	4.7
TW07-3	4/5/2000	20.00	BLQ	1.0
	5/16/2000	20.00	BLQ	BLQ
	3/29/2001	20.00	BLQ	5.6
TW08-1	4/6/2000	8.00	89.0	204.0
	5/17/2000	8.00	111.0	141.0
	4/3/2001	8.00	40.0	76.3
TW08-2	4/6/2000	13.00	BLQ	1.0
	5/17/2000	13.00	BLQ	BLQ
TW08-3	4/6/2000	17.50	4770.0	11.0
	5/17/2000	17.50	3750.0	14.3
	4/3/2001	17.50	2980.0	17.5
TW10-1	5/16/2000	10.58	3.6	BLQ
	4/2/2001	10.58	BLQ	2.5
TW10-2	5/16/2000	15.58	BLQ	BLQ
	4/2/2001	15.58	BLQ	2.9
TW10-3	5/16/2000	20.58	BLQ	BLQ
	4/2/2001	20.58	BLQ	2.4

<sup>1</sup> Fixed monitoring locations TW01, TW02, TW03, TW04, and TW05 are installed within the HBHA Pond. The depth indicated for is for feet below water surface.

<sup>2</sup> Quantitation Limit = 1.00 ppb

<sup>3</sup> Quantitation Limit = 1.00 ppb

Table G.3. Summary of benzene and toluene concentrations measured in filtered surface-water samples collected from within the HBHA Pond on November 30, 1999. The position of 'WN', 'WC', and 'WS' sampling locations is shown in Figure A.7 in Appendix A. Explanation of abbreviations: BLQ = below limit of quantitation, ND = not detected.

Location	Sampling Date	Depth Below Water Surface, ft	Benzene ppb <sup>1</sup>	Toluene ppb <sup>2</sup>
WN50	11/30/1999	1.64	BLQ	ND
WN100	11/30/1999	3.28	BLQ	ND
WN150	11/30/1999	4.92	1.9	ND
WN200	11/30/1999	6.56	6.4	ND
WN250	11/30/1999	8.20	293	BLQ
WC50	11/30/1999	1.64	2.3	ND
WC100	11/30/1999	3.28	1.7	ND
WC150	11/30/1999	4.92	1.2	ND
WC200	11/30/1999	6.56	14.8	ND
WC250	11/30/1999	8.20	105	BLQ
WS50	11/30/1999	1.64	1.7	ND
WS100	11/30/1999	3.28	BLQ	ND
WS150	11/30/1999	4.92	BLQ	ND
WS200	11/30/1999	6.56	32.9	BLQ
WS250	11/30/1999	8.20	106	BLQ
WS300	11/30/1999	9.84	187	BLQ

<sup>1</sup> Quantitation Limit = 1.00 ppb

<sup>2</sup> Detection Limit = 0.22 ppb; Quantitation Limit = 1.00 ppb

Table G.4. Summary of benzene and toluene concentrations measured in filtered surface-water samples collected from within the HBHA Pond on April 4, 2000. The position of 'WN', 'WC', and 'WS' sampling locations is shown in Figure A.7 in Appendix A. Explanation of abbreviations: BLQ = below limit of quantitation, ND = not detected.

Location	Sampling Date	Depth Below Water Surface, ft	Benzene ppb	Toluene ppb <sup>1</sup>
WN50	4/4/2000	1.64	1	BLQ
WN100	4/4/2000	3.28	1	BLQ
WN150	4/4/2000	4.92	2	BLQ
WN175	4/4/2000	5.74	1	BLQ
WN200	4/4/2000	6.56	1	BLQ
WN225	4/4/2000	7.38	2	BLQ
WN250	4/4/2000	8.20	136	1
WN300	4/4/2000	9.84	908	ND
WC50	4/4/2000	1.64	8	1
WC100	4/4/2000	3.28	4	BLQ
WC150	4/4/2000	4.92	3	BLQ
WC200	4/4/2000	6.56	8	1
WC250	4/4/2000	8.20	3	BLQ
WC275	4/4/2000	9.02	8	BLQ
WS50	4/4/2000	1.64	2	1
WS100	4/4/2000	3.28	2	1
WS150	4/4/2000	4.92	3	BLQ
WS200	4/4/2000	6.56	2	BLQ
WS250	4/4/2000	8.20	2	BLQ
WS300	4/4/2000	9.84	116	BLQ

<sup>1</sup> Detection Limit = 0.22 ppb; Quantitation Limit = 1.00 ppb

Table G.5. Summary of benzene and toluene concentrations measured in filtered surface-water samples collected from within the HBHA Pond on April 2-5, 2001. The position of 'WN', 'WC', and 'WS' sampling locations is shown in Figure A.7 in Appendix A. The position of the 'NML' sampling location is shown in Figure A.8 in Appendix A.  
 Explanation of abbreviations: BLQ = below limit of quantitation, ND = not detected, NM = not measured.

Location	Sampling Date	Depth Below Water Surface, ft	Benzene ppb <sup>1</sup>	Toluene ppb <sup>2</sup>
WN50	4/2/2001	1.64	0.6	2.9
WN100	4/2/2001	3.28	8.1	2.6
WN150	4/2/2001	4.92	0.6	2.4
WN200	4/2/2001	6.56	0.6	2.2
WN250	4/2/2001	8.20	0.8	2.1
WN270	4/2/2001	8.86	0.7	2.3
WN310	4/2/2001	10.17	21.9	ND
WC50	4/2/2001	1.64	BLQ	2.5
WC100	4/2/2001	3.28	2.6	2.3
WC150	4/2/2001	4.92	NM	NM
WC200	4/2/2001	6.56	BLQ	2.2
WC250	4/2/2001	8.20	NM	NM
WC300	4/2/2001	9.84	0.9	2.1
WS50	4/2/2001	1.64	2.9	4.3
WS100	4/2/2001	3.28	BLQ	1.8
WS150	4/2/2001	4.92	0.8	3.8
WS200	4/2/2001	6.56	0.5	2.6
WS250	4/2/2001	8.20	0.5	1.8
WS300	4/2/2001	9.84	BLQ	1.9
NML-1	4/5/2001	2.26	NM	NM
NML-2	4/5/2001	3.90	1.1	2.7
NML-3	4/5/2001	5.54	NM	NM
NML-4	4/5/2001	7.19	NM	NM
NML-5	4/5/2001	8.83	NM	NM
NML-6	4/5/2001	10.47	0.5	0.5
NML-7	4/5/2001	12.11	NM	NM
NML-8	4/5/2001	13.75	1830	13.9

<sup>1</sup> Quantitation Limit = 1.00 ppb

<sup>2</sup> Detection Limit = 0.22 ppb

January 26, 2004

MEMORANDUM

FROM: Robert Ford, EPA/ORD  
TO: Joseph LeMay, EPA/Region 1

Attached are concentration data for benzene and toluene detected in the HBHA Pond during three sampling trips. Depth and concentration data are shown in Tables 1-3. The positions of sampling locations within the HBHA Pond are shown in Figure 1. Determination of benzene and toluene concentrations was performed using Purge and Trap Gas Chromatography according to RSKSOP-122 Rev.3.

Figure 1. Position of north (WN), central (WC), south (WS), and NML surface water sampling locations within the HBHA Pond. Contour lines show the depth from water surface to sediment. Image was derived from April 2001 aerial photograph obtained from MassGIS.



Table 1. Concentrations of benzene and toluene measured in water samples collected at various depths within the HBHA Pond on November 30, 1999.

Location	Depth Below Water Surface, cm	Benzene ppb <sup>a</sup>	Toluene ppb <sup>b</sup>
WN50	50	BLQ	ND
WN100	100	BLQ	ND
WN150	150	1.9	ND
WN200	200	6.4	ND
WN250	250	293	BLQ
WC50	50	2.3	ND
WC100	100	1.7	ND
WC150	150	1.2	ND
WC200	200	14.8	ND
WC250	250	105	BLQ
WS50	50	1.7	ND
WS100	100	BLQ	ND
WS150	150	BLQ	ND
WS200	200	32.9	BLQ
WS250	250	106	BLQ
WS300	300	187	BLQ

<sup>a</sup> BLQ = Below Limit of Quantitation; Quantitation Limit = 1.00 ppb

<sup>b</sup> ND = not detected, Detection Limit = 0.22 ppb; Quantitation Limit = 1.00 ppb

Table 2. Concentrations of benzene and toluene measured in water samples collected at various depths within the HBHA Pond on April 4, 2000.

Location	Depth Below Water Surface, cm	Benzene ppb	Toluene ppb <sup>a</sup>
WN50	50	1	BLQ
WN100	100	1	BLQ
WN150	150	2	BLQ
WN175	175	1	BLQ
WN200	200	1	BLQ
WN225	225	2	BLQ
WN250	250	136	1
WN300	300	908	ND
WC50	50	8	1
WC100	100	4	BLQ
WC150	150	3	BLQ
WC200	200	8	1
WC250	250	3	BLQ
WC275	275	8	BLQ
WS50	50	2	1
WS100	100	2	1
WS150	150	3	BLQ
WS200	200	2	BLQ
WS250	250	2	BLQ
WS300	300	116	BLQ

<sup>a</sup> BLQ = Below Limit of Quantitation, Quantitation Limit = 1.00 ppb; ND = not detected, , Detection Limit = 0.22 ppb

Table 3. Concentrations of benzene and toluene measured in water samples collected at various depths within the HBHA Pond on April 2-5, 2001; NM = not measured.

Location	Depth Below Water Surface, cm	Benzene ppb <sup>a</sup>	Toluene ppb <sup>b</sup>
WN50	50	0.6	2.9
WN100	100	8.1	2.6
WN150	150	0.6	2.4
WN200	200	0.6	2.2
WN250	250	0.8	2.1
WN270	270	0.7	2.3
WN310	310	21.9	ND
WC50	50	BLQ	2.5
WC100	100	2.6	2.3
WC150	150	NM	NM
WC200	200	BLQ	2.2
WC250	250	NM	NM
WC300	300	0.9	2.1
WS50	50	2.9	4.3
WS100	100	BLQ	1.8
WS150	150	0.8	3.8
WS200	200	0.5	2.6
WS250	250	0.5	1.8
WS300	300	BLQ	1.9
NML-1	69	NM	NM
NML-2	119	1.1	2.7
NML-3	169	NM	NM
NML-4	219	NM	NM
NML-5	269	NM	NM
NML-6	319	0.5	0.5
NML-7	369	NM	NM
NML-8	419	1830	13.9

<sup>a</sup> BLQ = Below Limit of Quantitation; Quantitation Limit = 1.00 ppb

<sup>b</sup> ND = not detected, Detection Limit = 0.22 ppb

Table 3. Concentrations of benzene and toluene measured in water samples collected at various depths within the HBHA Pond on September 20-21, 2004.

Location	Depth Below Water Surface, cm	Benzene ppb <sup>a</sup>	Toluene ppb <sup>b</sup>
WS50	50	ND	ND
WS100	100	ND	ND
WS150	150	ND	ND
WS200	200	2.88	ND
WS300	300	ND	ND
WS350	350	ND	ND
WS400	400	68.8	1.03
WS450	450	75.2	BLQ
NML-6	319	1210	2.69
NML-7	369	1830	4.91
NML-8	419	2530	3.31

<sup>a</sup> ND = not detected, Detection Limit = 0.29 ppb

<sup>b</sup> BLQ = Below Limit of Quantitation, Quantitation Limit = 1.00 ppb; Detection Limit = 0.22 ppb